4.10 CULTURAL RESOURCES

4.10.1 Environmental Setting

Natural Setting

In prehistoric times, the Project area likely was an arid grassland dominated by perennial bunchgrasses and greasewood whose seeds were an important dietary staple for prehistoric inhabitants. Prior to European contact, in the areas surrounding Buena Vista and Kern Lakes, the landscape was dominated by wetland plants including tules, willows, and cottonwood (Kroeber 1925:476). The fauna included mule deer, tule elk, rabbits, bighorn sheep, and various rodents. Fish was a primary protein source for local prehistoric people (Wallace 1978:450). Prehistorically, the Tehachapis offered a favorable environment of abundant grasses and seeds that were dietary staples for the local inhabitants. Faunal resources included black bear, elk, mule deer, and mountain lion.

The basins in the Calico Fault region during Pleistocene times contained water, they are now dry lakes and playas. Local prehistoric fauna included coyote, pronghorn sheep, rabbits, and various rodents. During the Late Pleistocene, rodents were a primary subsidence source whereas the economic focus was on large game during earlier periods.

The Project is near the Colorado River, which forms the dominant water resource at the eastern California boundary for the Project area.

Cultural Setting

In general, the Project travels through three cultural areas, including the lower San Joaquin Valley, the Mojave Desert, and the Colorado Desert.

Regional Prehistory

Southern California's prehistory was synthesized by Warren (1968, 1984), Warren and Crabtree (1986), and Wallace (1955), who built on the pioneering work of Rogers (1939, 1945). The prehistory of the southern San Joaquin Valley is poorly known (Moratto 1984:215). The cultural sequence for the Mojave Desert was synthesized by Warren and Crabtree (1986) and Bettinger and Taylor (1974). Many investigators have studied

the Colorado Desert region including Brooks and Brooks (1977), McClellan, Phillips and Belshaw (1980), Swarthout (1981a, 1981b, 1981c), Swarthout and Drover (1981), McGuire and Schiffer (1982), Warren (1984), Stone (1987, 1991), Altschul (1994).

Pre-Paleoindian Period (prior to 12,000 Before Present [B.P.])

Various researchers have suggested a period that predates the Paleoindian period. Stones recovered northwest of Daggett above Pleistocene Lake Manix at a site known as Calico Hills have been identified as man-made flaked stone tools dating between 50,000 to 200,000 years B.P. by Louis Leakey and others (1972). A similar claim was made by Walker (1986) at nearby Newberry Springs cave. Despite these findings, numerous scholars of Southern California archaeology remain skeptical of the pre-Paleoindian occupation dates (Pendleton 1986, Schaefer 1994). As of 2003, there are no definitively dated archeological sites within the region with occupation dates prior to 12,000 B.P.

Paleoindian Period (12,000 to 7,000 B.P.)

This period is considered to have two manifestations that reflect either different cultures, different economic adaptations, or both. These are called the Fluted Point Tradition and the San Dieguito-Lake Mojave complex. In the southern San Joaquin Valley, particularly at Tulare Lake and Buena Vista Lake, fluted points have been found indicating the presence of the Fluted Point Tradition (Hopkins 1991, Wedel 1941). The artifact assemblages of the San Dieguito-Lake Mojave complex reflect small, mobile bands who exploited large game and collected seasonal plant resources. One aspect that separates this complex from later Archaic period cultures is the lack of hard nuts and seeds in the diet as indicated by the absence of ground stone from artifact assemblages (Rogers 1966, Warren 1967, Moratto 1984). However, Pendleton (1984:68-74) states that the vast majority of ethnographically documented tools for processing hard seeds or other hard vegetal resources were typically made from wood that would not preserve well in the archaeological record.

Archaic Period (7,000 to 1,500 B.P.)

In the San Joaquin Valley, the Archaic Period is poorly understood (Moratto 1984:215). Although there are indications of occupation of both desert and coastal cultures, there seems to be a weak relationship in comparison to the well-documented Windmiller, Berkeley, and Augustine patterns of the Sacramento Delta region (Wedel 1941).

In California desert regions, the Archaic Period is divided into two complexes: the Pinto complex (7,000 to 4,000 B.P.) and the Amargosa-Gypsum complex (4,000 to 1,500 B.P.). During the Pinto complex period, there is a general shift away from big game dietary resources and an emphasis on plant resources. There are few ground stone artifacts and those found are typically thin slabs with highly polished surfaces. Projectile points for this period are distinctive and produced with a crude, percussion technique (Rogers 1939).

The Amargosa-Gypsum complex is characterized by fine, pressure-flaked Elko, Humboldt, and Gypsum-series projectile points, leaf-shaped points, and rectangular-based knives, among others. Metates and manos were common, and during this period the mortar and pestle were introduced (Warren 1984:416). The variety of tool types and the addition of seed processing tools suggest a more effective adaptation to desert conditions.

Late Prehistoric Period (1,500 to 450 B.P.)

This period is characterized by population increases and cultural change. In the southern San Joaquin Valley, this period is marked by an increase in Haliotis and Olivella shell beads, spears and basketry needles, and thin triangular arrow points (Wedel 1941). Suggesting influences from both coastal southern California and desert groups, this period is also defined by wooden grave markers, pottery, an elaborate steatite industry, and extensive use of marine shell and asphaltum (Moratto 1984:215, Wedel 1941).

The western Mojave region was marked by Eastgate and Rose Spring projectile points, which were the precursors to the bow and arrow. Introduced later in the period (approximately 900 A.D.) were Desert side-notched and Cottonwood Triangular points as well as coarse brownware pottery (Schroeder 1957, 1979; Rogers 1945; Warren 1984:427). Suggesting the rise in importance of trading expeditions, religious activities, and visiting, are the extensive desert trails, as well as the abundance of steatite and shell beads for the Pacific Coast region (Davis 1961).

The culture known as Patayan was the local cultural pattern for the lower Colorado River during the Late Prehistoric period (McGuire and Schiffer 1982). Typical of this culture were small nomadic groups dwelling in seasonal settlements along the Colorado River floodplain and traveling extensive trails throughout the Colorado Desert. Although exact dates and cultural affiliations are difficult to determine, many of the petroglyphs,

bedrock grinding surfaces, and pictographs are associated with the Patayan pattern. During this period, gathering wild vegetal resources from higher elevations was a primary dietary procurement strategy, with riparian legumes and seed-producing species of particular importance (Castetter and Bell 1951, Driver 1957, White 1974). Some upland portions of the Project area may have been used for vegetal procurement, with the expected sites consisting of rock shelters, temporary camps, and caches.

Ethnohistoric Period

During the time of Euro-American contact, the Project area within the southern San Joaquin Valley was occupied by the Southern Valley Yokuts, the area in the Tehachapi Mountains was inhabited by the Kitanemuk, and in the desert region to the east was inhabited by the Serrano/Vanyume people (Wallace 1978, Blackburn and Bean 1978, Bean and Smith 1978). The lower Colorado River area was home to Yuman and Shoshonean people, including Halchidoma, Maricopa, Mojave, Quechan, Serrano, Chemehuevi, and Southern Paiute (Spier 1933, Kroeber 1953, Ruppert 1976, Stewart 1983, Moratto 1984, Kelly and Fowler 1986).

Historical Record

Initial contact between southeastern California Native American groups and Europeans was reported in 1540 when Hernando de Alarcon landed near Yuma, Arizona. Padre Fages was the first explorer to make contact with Native Americans in the Mojave Desert in 1773, and Francisco Garcés followed the Mojave River through the Mojave Desert in 1776. The trail that Garcés followed became a well-traveled route linking Los Angeles and Santa Fe, New Mexico. Relations between Native Americans and Europeans were harmonious until 1780 when two missions were established along the lower Colorado River which served as a catalyst for frequent conflicts.

At the end of the Mexican Period (1821-1848), the Treaty of Guadalupe Hidalgo was signed ceding New Mexico, Arizona, Alta California, and Texas to the United States (Rolle 1998:91). Expanded transportation routes provided improved access to regional resources and miners, farmers, merchants, and cattle ranchers arrived in increasing numbers (Norris and Carrico 1978). Substantial regional population increases continued through the Depression years and World War II, and continued during the industrial and technological developments of the late 20th century.

Existing Cultural Resource Landscape

Record Searches

In November and December 2000 a comprehensive record search was conducted at the Regional Information Centers of the California Historical Resource Information System at California State University, Bakersfield, Eastern Information Center at the University of California, Riverside, and the San Bernardino County Museum. The search included a review of all recorded prehistoric and historic archaeological sites within a 1,000-foot-wide corridor centered on the pipeline centerline as well as a review of all known cultural resource reports. In addition, the staff reviewed historic maps, listings in the California Points of Historical Interest (PHI), the listings of the California Historical Landmarks (CHL), the National Register of Historic Places (NRHP), and the California State Historic Resources Inventory (HRI) for the proposed Project area.

In January and February 2003, archaeological investigations for six proposed construction areas outside the 100-foot-wide ROW were conducted. The record search for the six proposed construction areas extended 500 feet on either side of the existing pipeline. Three of the proposed construction areas are within the 1,000-foot-wide study corridor for the All American Pipeline EIR, therefore an additional record search was not conducted; the three remaining areas were subject to record searches at Southern San Joaquin Valley Information Center and the San Bernardino Archaeological Information Center.

On January 24, 2004, staff at the Regional Information Center of the California Historical Resources Information System, Redlands, California, conducted a record search of the Project area. The search included a review of all recorded prehistoric and historic archaeological sites within a 1-mile wide corridor centered on the pipeline centerline as well as a review of all known cultural resource reports. The search area was increased for this segment to take in to account re-routing options. In addition, the staff reviewed historic maps, listings in the California Points of Historical Interest (PHI), the listings of the California Historical Landmarks (CHL), the National Register of Historic Places (NRHP), and the California State Historic Resources Inventory (HRI) for the proposed Project area.

Record Search Results

The 1,000-foot-wide record search resulted in the identification of 246 previously recorded cultural resources within the study corridor. Of the 246 previously recorded sites, 104 are recorded within the 100-foot-wide pipeline ROW. Most of the recorded prehistoric sites are lithic scatters but also included are rock rings, hearths, and one habitation site. The recorded historic sites include structures, roads, debris scatters, railroads, and the historic towns of Saltus, Amboy, and Bagdad.

The record search for the three construction areas not included in the 1,000-foot-wide record search resulted in a total of three cultural resources identified within or adjacent to the construction areas. Two of the sites are linear historic sites, and one is a combination prehistoric and historic village site.

The 1-mile wide record search of the Cadiz Lateral area resulted in identification of 14 cultural resources (two prehistoric and 10 historic) and two prehistoric isolates. Of these, only three exist within the 200-foot Project activity corridor. All three are historic linear sites including portions of Route 66 and two lines of the Santa Fe Railroad.

Pedestrian Surveys

During various months in 2000, 2001, 2002, and 2004, EPNG consultants surveyed a 100-foot-wide corridor centered on the pipeline centerline for the 304-mile pipeline route and Cadiz Lateral. Approximately 3.4 miles of the survey corridor were surveyed along a 25-foot-wide corridor (rather than 100 feet) at the landowner's request. Approximately 2.9 miles were not surveyed for various reasons, including agricultural fields in production, terrain too steep to safely survey, fenced, private property, and locations with facilities in the survey path.

In January and February 2003, archaeological field surveys were conducted at the six construction areas. The area of potential effect (APE) at the six locations was surveyed at 15-meter intervals with the exception of those areas on BLM land, where 10-meter survey intervals were used. A five year limit is commonly considered sufficient for archaeological surveys, therefore areas included in the original survey were not resurveyed in 2003.

Survey Results

The survey efforts for 2000, 2001, and 2002 on Line 1903 resulted in recording and/or updating 124 cultural resources within the 100-foot-wide pipeline ROW: 97 archaeological sites and 27 isolates. Of the 97 sites, 53 were previously recorded and 44 were newly recorded. The 44 newly recorded sites include historic trash scatters, earthen canals, railroad sidings, and prehistoric lithic scatters. All of the isolates were determined to be not eligible for listing on the NRHP and therefore require no further work.

The survey for the six construction areas relocated two previously recorded sites within the APE and one previously recorded site adjacent to two of the construction areas. The survey efforts on the Cadiz Lateral resulted in relocating three previously recorded historic sites and recording five newly discovered sites. No prehistoric sites were observed.

Ground-disturbing activities are planned at or adjacent to 26 cultural resource sites on Line 1903 (Table 4.10-1). Of the 26 resources, nine were evaluated as not eligible for listing on the NRHP; therefore, no further work is recommended for these resources. Thirteen of the sites were previously affected by All American Pipeline activities within the Project APE to the degree that none of the attributes that make the sites eligible for the NRHP would be affected by construction activities. However, as portions of these sites outside the APE are still intact, monitoring of construction activities at these sites is recommended to protect those portions from inadvertent damage. Three sites remain unevaluated (CA-SBR-6404H, CA-SBR-6530H, and P-33-011304), and one site (CA-SBR-317H) has been evaluated as eligible for listing on the NRHP, but was found to not be eligible within the Project ROW. For the three unevaluated sites, archaeological testing and/or historical documentation is required to identify site boundaries and potential listing on the NRHP. If avoidance is determined impossible, a program of data recovery and monitoring must be implemented.

Ground disturbing activities are planned at eight sites discovered or relocated within the APE of the Cadiz Lateral during survey efforts. Four of the eight cultural resources documented during the survey were evaluated as not eligible for listing on the NRHP. Therefore, no further work is recommended for these resources. Four sites are either eligible for inclusion on the National Register, have enough integrity to be considered potentially eligible, or have not yet been evaluated. At all of these sites, avoidance or

boring is recommended as well as construction monitoring. In the case of the two unevaluated sites, avoidance or boring is preferred. If avoidance is not possible, a National Register evaluation must be conducted prior to construction.

Table 4.10-1 offers a summary view of the sites located within the proposed APE of Line 1903 and the Cadiz Lateral that were discovered or relocated during survey efforts. Included are milepost designations as well as comments and recommendations from the most recent reports provided by EPNG (EDAW June 2003 and March 2004). In the case of newly discovered sites, no primary numbers or trinomials are available at this date, therefore, the designations used in the field are used in the Primary Number column.

Table 4.10-1. Cultural Resources within the Pipeline ROW

Primary Number	Trinomial	Resource Type	NRHP Eligibility[1]	Comments/Recommendations
Line 1903				
P-15-002434	CA-KER-2434	Large lithic site	NE in APE	Not relocated, probably destroyed; *monitor* to prevent further destruction of intact portions of site.
P-36-006509	CA-SBR-6509	Lithic scatter	NE	Site segment within the right-of-way (ROW) is destroyed; *monitor* to prevent further destruction of intact portions of site.
P-36-002294	CA-SBR-2294	Large lithic site	At west edge of APE (NE in APE)	*Monitor* to prevent further destruction of intact portions of site adjacent to area of potential effect (APE).
P-36-006760	CA-SBR-6760H	Historic trash scatter	NE	Small scatter of cans in ROW; *monitor*.
P-36-010639	CA-SBR-10,639H	Historic trash scatter	NE	Site record shows mapped site location at an area that shows no construction activity; no further work.
	CA-SBR-317/H; 2107; 2127/H	Prehistoric and Historic Village of Newberry Springs	NE in ROW; DE	*Avoid or test.*
P-36-001908	CA-SBR-1908	Lithic scatter	NE in APE	Only 10 percent of the site is in ROW; *monitor* to prevent further destruction of intact portions of site.
P-36-006404	CA-SBR-6404H	Historic trash scatter	UN	No artifacts; dirt road still used; *avoid, bore, or test.*
P-36-006530	CA-SBR-6530H	Historic railroad camp	UN; NE in ROW	Site in very poor condition; *avoid, bore, or test.*
P-36-006693	CA-SBR-6693H	Atchison, Topeka & Santa Fe Railroad grade	20' North; NE in ROW	Disturbed by All American Pipeline ROW and Midland Road; site in fair condition; *monitor* to prevent further destruction of intact portions of site.
P-36-003284	CA-SBR-3284H	Historic Town of Amboy	NE in ROW	Buildings outside of ROW; trash scatter in ROW in poor condition; *monitor* to prevent further destruction of intact portions of site.

Primary Number	Trinomial	Resource Type	NRHP Eligibility[1]	Comments/Recommendations
P-36-005815	CA-SBR-5815	Large lithic scatter	In APE (NE in APE)	Survey area; *monitor* to prevent further destruction of intact portions of site.
P-36-009857	CA-SBR-9857H	Historic mining prospects	NE in ROW	Site in excellent condition; 1 percent of site in ROW; *monitor* to prevent further destruction of intact portions of site.
P-33-011358	CA-RIV-6768	Prehistoric ceramic scatter	(400' SE; NE in APE)	No disturbances; site in good condition; *monitor* to prevent further destruction of intact portions of site.
	CA-RIV-1498H	Historic well and processing works	NE in ROW	Site in poor condition; *monitor* to prevent further destruction of intact portions of site.
P-33-011299	CA-RIV-6738H	Historic railroad siding of Styx	NE in ROW	Vandalized; site in fair condition; *monitor* to prevent further destruction of intact portions of site.
P-33-011304	DB-S-SB-9	Historic earthen canal	UN	Canal still in use; site in good condition; *avoid, bore, or test*.
Cadiz Lateral				
AAPL-Cadiz 1		Desert Training Center WWII military camp	NE in ROW. 1E just outside APE	Should be considered historically significant until evaluated for NRHP eligibility; monitor to prevent further destruction of intact portions of site.
AAPL-Cadiz 2		Historic version of Cadiz-Rice Road	NE	No further archaeological work recommended.
AAPL-Cadiz 3		Cadiz-Cadiz Pass Road	NE	No further archaeological work recommended.
AAPL-Cadiz 4		Dirt road off Cadiz Rd. leads to mining site	NE	No further archaeological work recommended.
AAPL-Cadiz 5		Dirt road crosses APE	NE	No further archaeological work recommended.
P-36-006693		Main east/west rail line through region	1E	Avoidance of impacts to railroad and construction monitoring recommended.
P-36-002910		National Old Trails Highway (southern segment & northern segment) and Route 66	Northern segment of National Old Trails Hwy. NE. Southern Segment and Route 66 NE.	Northern segment of National Old Trails Hwy. Should be avoided and monitored during construction activities; southern segment requires no further archaeological work. The section of Route 66 crossed by the APE was repaved and lacks integrity, therefore, no further archaeological work is recommended.
P-36-009853		Cadiz Cutoff rail line	UN	Avoid impacts to or bore beneath railroad or evaluate for National Register eligibility.

1E = Eligible
DE = Determined eligible by SHPO
NE = Not eligible
UN = Unevaluated
Sources: Pigniolo et al. 2002, Underwood and Cleland 2002
Note: SHPO has not yet made any recommendations on cultural resources in the Project area. Once consultation is complete, a final list of cultural resources and recommendations would be made available by SHPO.

Native American Consultations

Federal agencies are required to consult with Native American tribes concerning the identification of cultural values, religious beliefs, and traditional practices of Native American people that may be affected by actions on Federal lands. These Federal mandates include the National Historic Preservation Act of 1966, as amended; Native American Graves Protection and Repatriation Act of 1990, as amended; American Indian Religious Freedom Act of 1978; and E0 13007—Indian Sacred Sites. Native American consultation includes the identification of places (i.e., physical locations) of traditional cultural importance to Native American tribes. Places that may be of traditional cultural importance to Native American people include, but are not limited to, locations associated with the traditional beliefs concerning tribal origins, cultural history, or the nature of the world; locations where religious practitioners go, either in the past or the present, to perform ceremonial activities based on traditional cultural rules or practice; ancestral habitation sites; trails; burial sites; and places from which plants, animals, minerals, and waters possessing healing powers or used for other subsistence purposes may be taken.

In compliance with the above-mentioned legislation, an initial consultation letter was sent in December 2000 (Underwood and Cleland 2002) and April 2001 (Pigniolo et al. 2002) to all Native American groups either residing in or with cultural ties to the Project area. The letter was sent to a total of 30 tribes to inform them of the proposed undertaking and solicit their concerns/comments regarding possible historical and/or traditional ties to the area or the presence of religious or spiritual sites. Four of the tribes responded to the letter. The San Manuel Band of Mission Indians requested that any information about sites discovered along the line be forwarded to the Tribe. Additionally, the Tribe submitted a monitoring program and excavation agreement for those areas designated as sensitive. The Diegueno requested a more detailed map of the Project area, which the Tribe has subsequently received from EPNG. Representatives of the Cabazon Band of Mission Indians determined that the Project area is not near tribal lands. The Morongo Band of Mission Indians requested a copy of the cultural resources survey report.

During March and April 2002, follow-up consultation letters were sent to 27 of the 30 Native American groups initially contacted in December 2000 and April 2001. The original contact lists were merged and updated, and reflect changes in tribal personnel (Table 4.10-2). As of May 2002, five tribes have responded. The Tejon Indian Tribe requested a more detailed map. Representatives of the Torres Martinez Desert

Cahuilla Indians requested copies of any information pertaining to historic or prehistoric archaeological sites in the Project area. The Cabazon Band of Mission Indians has no comment on the proposed Project. Comments from the Chemehuevi Indians express concern over possible sacred sites in the vicinity of the Project area and the endangered desert tortoise. The Fort Mojave Indian Tribe requested a copy of the cultural resource inventory report.

Table 4.10-2. Native American Consultation List

Name/Title	Nation	City	State	Zip Code
Richard Milanovich, Chairperson	Agua Caliente Band of Cahuilla Indians	Palm Springs	CA	92262
John A. James, Chairperson	Cabazon Band of Mission Indians (Cahuilla)	Indio	CA	92201
Michelle Salgado, Spokesperson Eugenia Nogales	Cahuilla Band of Mission Indians	Anza	CA	92539
Mary Ann Andreas, Chairperson	Morongo Band of Mission Indians (Cahuilla)	Banning	CA	92220
Robert L. Gomez	Pauite, Tubatulabal, Yokut	Bakersfield	CA	93306
Joseph Hamilton, Representative	Ramona Band of Mission Indians (Cahilla)	Anza	CA	92539
Deron Marquez, Chairperson	San Manuel Band of Mission Indians (Cahuilla)	Patton	CA	92369
Henry Duro, Chairperson Christine Hernandez				
Gary Resvaloso, Cultural Resources Art Lopez, Chairperson Ernesto Morreo	Torres-Martinez Desert Cahuilla Indians	Thermal	CA	92274
Dean Mike, Chairperson	Twenty-Nine Palms Band of Mission Indians (Luiseno, Chemehuevi)	Coachella	CA	92236
Duane Garfield, Tule River Indian Tribe	Yokut	Porterville	CA	92358
Alvino Siva Katherine Saubel Anthony Andreas, Jr.	Cahuilla	Banning	CA	92220
Joseph Benitez	Chemehuvie	Indio	CA	92201
Nora Helton, Chairperson Alta Butler, Cultural Resources	Fort Mojave Tribal Council	Needles	CA	92363
Paul (Valenzuela) Varela	Chumas Tataviam Kitanemuk Tongva Serrano	Hesperia	CA	92345
Betty Cornelius, Cultural Contact	Colorado River Reservation	Parker	AZ, CA	85344
Edward Smith, Cultural Resources Contact	Chemehuevi Reservation	Havasu Lake	CA	92363
David Halmo, Cultural Resources Contact	Chemehuevi	Chemehuevi Valley	CA	92363
John Valenzuela	Chumash Tatavian Tongva Gabrielino Vanyume Serrano Kitanemuk	Hesperia	CA	92340

Name/Title	Nation	City	State	Zip Code
Elda Butler, Director AhaMakav Cultural Society Chad Smith	Fort Mojave Tribal Council	Mohave Valley	CA	86440
Charlie Cook, Tehachapi Indian Tribe	Kawaiisu	Acton	CA	93510
Alfred Valenzuela	Chumas Tataviam Gabrielino Kitanemuk Vanyume Serrano	Newhall	CA	91321
Anthony Largo, Spokesman	Santa Rosa Band of Mission Indians	Hemet	CA	92343
Puilulaw Khus Zarate	Chumash	Morro Bay	CA	93442
Ron Wermuth, Chairperson	Kern Valley Indian Community (Tubatulabal, Kawaiisu, Koso, Yokut)	Kernville	CA	93238
Delia Dominguez	Yowlumne, Kitanemuk	Covina	CA	91722
Kathryn Morgan, Tejon Indian Tribe	Yowlumne, Kitanemuk	Wasco	CA	92380
Eugene Albitre	Diegueno	Bakersfield	CA	93312

Validation Survey

On September 3 and 4, 2003, ENTRIX Senior Project Archaeologist Carrie D. Wills met with and was accompanied by Mr. Al Powers from EPNG on a Project field visit. The purpose of the field visit was to verify existing conditions and assess impacts at a representative sampling (10) of recorded archaeological sites. Following is a summary of the original site attributes, the current conditions found during this visit, and recommendations for the sites.

- **CA-KER-2434** was recorded in 1985 as a "probable food processing location . . . with 100's of lithics and bones and a roasting pit area with lots of fire cracked rock and charcoal."

During this survey, no bones, no fire-cracked rock, and no flakes were discovered. The site map did not match the configuration of the existing roads and power lines, so it is highly probable that the site was mapped incorrectly on the topographic quad map.

Recommendations: Because hundreds of artifacts are mentioned in the site record and neither the previous survey team nor ENTRIX could relocate any of them, it is highly probable that the site was mapped incorrectly. During this field visit, the mapped configuration of the roads and powerlines did not match the existing roads and powerlines. Monitoring should occur at this site during initial construction activities.

- **CA-SBR-6509** was recorded in 1989 and is "composed of four small loci . . . characterized by limited small cobble testing and cryptocrystalline flakes, cores, and flaking tools". The site size was estimated at 30,144 square meters. The site was characterized as being a "surface site" by means of trowel tests.

During this survey, three probable flakes were observed in the recorded site area. The entire area has been disturbed by previous pipeline construction and ROW maintenance.

Recommendations: As the site was relocated by the previous survey team and ENTRIX, it is recommended that the site be monitored during subsurface construction activities.

- **CA-SBR-2294** was recorded in 1949 as encompassing 10 acres and having "pottery, scrapers, ornaments, metates, manos, and projectile points".

During this survey, a few flakes were observed near the southern end of the site.

Recommendations: Because of the size of this site (10 acres) and the multiple types of artifacts (possibly indicating a habitation site), it is recommended that the western portion of the site be monitored during construction activities.

- **CA-SBR-6760H** was recorded in 1990 and consists of "six hole-in-cap tin cans and one matchstick filler tin can" within an 18 meter by 31 meter area.

During this survey, the cans were not relocated nor were there any indicators that there was once a disposal, habitation, or temporary camp at or near this location.

Recommendations: Site CA-SBR-6760H was not relocated, no additional cultural resources or indications of undiscovered features were observed, and the site is depicted as being 450 feet (west) of the proposed construction activity. However, because it falls within the 1,000-foot variance corridor, construction activities should be monitored.

- **P-36-010639** was recorded in 2001 and consists of "a very large and diffuse historic can scatter" of approximately 40 cans.

During this survey, the cans were not relocated nor were there any indicators that there was once a disposal, habitation, or temporary camp at or near this location. The site has been previously disturbed by an access road and two gas pipelines.

Recommendations: The site was depicted as being 800 feet east of the proposed construction activity; however, because it falls within the 1,000-foot variance corridor, construction activities should be monitored.

- **CA-SBR-317/H** was recorded in the 1940s and was relocated in 2001. The site consists of both prehistoric (flakes, bifaces, and a metate) and historic (glass and ceramic fragments) components covering an area of approximately 1 mile.

During this survey, approximately eight prehistoric and eleven historic artifacts were observed.

Recommendations: The site is eligible for listing in the NRHP and therefore requires either avoidance or testing within the APE.

- **CA-SBR-1908** was originally recorded in 1989 and was updated in 2001. It was originally described as a "very large, low-density cobble test/quarry area" and contained the same artifactual materials when revisited in 2001.

During this survey, numerous flakes and cores were observed.

Recommendations: The size (115 meters by 95 meters) and numerous lithic components of site CA-SBR-1908 necessitate monitoring of the area within and adjacent to the APE during construction activities.

- **CA-SBR-6693H** was originally recorded in 1990 and was updated in 2001. It was originally described as a "the Atchison, Topeka & Santa Fe Railroad originally built in 1883" and contained the same components when revisited in 2001. This site was determined eligible for listing in the NRHP in 1994.

Recommendations: The NRHP-eligibility status necessitates monitoring of the area within the APE during construction if construction of a new pipeline would in fact be located adjacent to the railroad.

- **CA-SBR-6530H** was originally recorded in 1989 and was updated in 2001. It was originally recorded as a "historic railroad complex . . . that included a disperse scatter of historic debris". During the 2001 survey, only a few sanitary cans, wood, glass, and ceramic insulator fragments were noted.

During this survey, approximately 8 to 12 glass and insulator fragments were observed.

Recommendations: If the site cannot be avoided, limited shovel testing should determine whether there is a subsurface component to the site and whether it is eligible for listing in the NRHP.

CA-SBR-6404H was originally recorded in 1990 and was updated in 2001. It was originally recorded as a "historic dirt road connecting the towns of Ludlow and Crucero." During the 2001 survey, the road was found to be intact and still in use on a limited basis.

Recommendations: If the site cannot be avoided, it should be bored or evaluated to determine whether it is eligible for listing in the NRHP.

Using the 10 sites detailed above as a representative sampling, it appears that the site conditions listed in the most recent report (EDAW June 2003) reflect a conscientious assessment of the extant sites within or adjacent to the Project APE. The remaining seven sites that were not viewed during this site visit appear to have been assessed at the same level.

Prior experience with similar projects has shown that relocation of project alignments and construction activities is typical. Frequently, portions of the pipeline or other Project components need to be relocated to a more suitable locale. Often times when this happens, a new archaeological assessment must be made to ensure protection of archaeological site components that originally were not going to be affected. To minimize the need for down time or work stoppage for additional archaeological assessments outside the original APE, it was deemed reasonable to allow for a project "variance corridor" of 1,000 feet on either side of the APE (pers. comm. Wiley). All archaeological sites within this variance corridor would be protected by means of a monitoring program. This rationale ensures quick resolution of project realignments and changes by requiring the presence of a professional archaeologist when construction activities are near archaeological sites.

Thirteen sites where monitoring is recommended have portions damaged within the APE to the degree that no values that would make the sites eligible for listing on the NRHP would be affected by construction activities. Monitoring is recommended at these locations to help protect against inadvertent damage to portions of these sites outside the APE. The rationale behind monitoring these sites is:

- either it is a large site with the possibility of revealing additional site components during construction; or

- the site location is close enough to the proposed construction activity that any change in the construction activity location could affect a known or undiscovered portion of the site.

A comprehensive monitoring program would ensure protection of archaeological sites within and adjacent to the APE. It would also serve to reduce waste in terms of realignment activities and construction down time.

4.10.2 Regulatory Setting

Federal

Federal land management agencies (e.g., the FERC and BLM) are required to take into account the effects their undertakings may have on historic properties and to afford the Advisory Council on Historic Preservation (ACHP) an opportunity to comment. Procedures for complying with Section 106 are found in the ACHP's regulations in 36 CFR Part 800. In accordance with Section 101(d)(6) of the NHPA and the American Indian Religious Freedom Act, the effects of the Project on properties of cultural and religious significance to Native Americans must be considered. In addition, Federal land management agencies must consider Native American cultural and religious concerns for any portions of the Project that cross Federal lands. These Federal lands are regulated in accordance with the Native American Graves Protection and Repatriation Act (NAGPRA), the Sacred Sites EO 13007, the Archaeological Resource Protection Act (ARPA), and the California Desert Conservation Area Plan 1980 as Amended.

State

The CSLC is tasked with compliance of all provisions in the CEQA that concern cultural resources (CEQA Sections 21083.2, 21084.1, and 15064.5). Cultural resources as defined in the State CEQA include prehistoric and historic era archaeological sites, districts, and objects; historic buildings, structures, objects and districts; and traditional/cultural sites or the locations of important historic events. The CEQA Guidelines (Section 15064.5) state that a Project may have a significant environmental effect if it causes a substantial adverse change in the significance of an historic resource. Additionally, the CSLC must consider properties eligible for listing on the California Register of Historical Resources (CRHR) or that are defined as a unique archaeological resource in the CEQA Section 21083.2.

Local

Riverside, San Bernardino, and Kern Counties all have ordinances and general plans that reflect the State CEQA guidelines and endeavor to preserve and enhance known and newly discovered cultural resources.

4.10.3 Significance Criteria

An adverse impact on cultural resources was considered significant and would require mitigation if Project construction or operation would result in an unresolvable adverse effect on the characteristics that contribute to the eligibility of a historic or prehistoric property for listing in the NRHP or the CRHR. Adverse effects may include, but are not limited to, the following:

- physical destruction of or damage to all or part of the property;
- change in the character of the property's use or of physical features within a property's setting that contribute to its historic significance (e.g., by isolating the property from its setting); or
- introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features.

Several criteria are considered in identifying significant cultural resources. First, significant cultural resources (as defined for Federal undertakings) include those prehistoric and historic sites, districts, buildings, structures, and objects, as well as properties with traditional religious or cultural importance to Native Americans or other groups, that are listed, or are eligible for listing, in the NRHP, according to the criteria outlined in 36 CFR § 60.4. Second, cultural resources that do not meet the NRHP criteria, but may qualify as a unique characteristic of an area are considered under the NEPA and (in California) resources that may qualify for the CRHR are considered under the CEQA. Historic properties (e.g., NRHP-listed or eligible cultural resources) must possess integrity of location, design, setting, materials, workmanship, feeling, and association, and meet at least one of the following NRHP criteria:

- association with events which have made significant contributions to the broad patterns of the history of the United States;

- association with the lives of people significant in US history;

- embody the distinctive characteristics of a type, period, or method of construction; or represent the work of a master, or possess high artistic value, or represent a significant and distinguishable entity whose components may lack individual distinction; or

- has yielded, or is likely to yield, information important in prehistory or history.

4.10.4 Impact Analysis and Mitigation

Consultation with the State Historic Preservation Office (SHPO) has been initiated for the Project. In addition to the mitigation proposed in the following section, any measures recommended by SHPO as a result of this consultation would be implemented during construction and operation of the Project. This consultation would be completed prior to certification of the EIR/EA and final approval of the Project by BLM, CSLC, and FERC.

Impact CU-1: Unanticipated Discovery of Cultural Resources or Human Remains

Cultural resources, including human remains, that were not identified during the surveys could be discovered during construction. (Potentially Significant, Class II).

Construction activities could adversely affect previously undiscovered cultural resources; the potential for the presence of undiscovered buried cultural resources exists despite previous archaeological surveys and investigations.

Mitigation for CU-1:

MM CU-1a. ***Stop Work****. If previously undiscovered cultural resources, such as lithic debitage or groundstone, shell midden, historic debris, building foundations, or human bone, are found within the APE during construction, all ground-disturbing activities within the immediate area would be halted at the site and within 100 feet of the site. Work would stop until the find has been evaluated by a professional archaeologist and the appropriate State and Federal agencies have been notified. If the resource is recommended as eligible for listing in the National Register of Historic Places (NRHP) or protected under*

other Federal or State statutes, the impacts would be mitigated through the Unanticipated Discovery Plan.

MM CU-1b. ***Unanticipated Discovery Plan.*** *Sixty days prior to ground disturbance activities, the Applicant would submit to the CSLC and BLM an Unanticipated Discovery Plan for review and comment. The plan would outline the processes of notification, evaluation, and actions to be taken should unanticipated cultural resources be found during construction.*

Rationale for Mitigation. Implementation of this mitigation measure would prevent destruction or loss of previously undiscovered cultural resources during construction activities which could inadvertently expose such resources.

Impact CU-2: Potential for Indirect Impacts on Cultural Resources during Construction

Construction and maintenance activities could result in indirect impacts on cultural resources. (Potentially Significant, Class II)

Construction and maintenance activities could result in indirect impacts at archaeological sites due to increases in ground surface activities and increased human presence from the number of workers during construction. Indirect impacts are difficult to quantify and control, but they generally include inadvertent destruction and loss of surface artifacts from illicit collecting.

Mitigation for CU-2:

MM CU-2: ***Training.*** *Prior to disturbance activities, and throughout the Project construction period as needed for all new construction personnel, the Applicant would provide training to construction personnel. The training would include onsite avoidance requirements and the procedures for reporting any sensitive resources that may be discovered during Project-related ground disturbance. The training program would explain the potential for exposing cultural resources, including prehistoric and historic resources, during construction; the locations of potentially sensitive areas; and protocols to treat unexpected discoveries.*

Rationale for Mitigation. Proper training of construction personnel would lessen the potential for disturbance of known and undiscovered cultural resources during daily activities.

Impact CU-3: Impacts on Recorded Archaeological Sites Adjacent to the Project APE

Construction activities could inadvertently damage intact portions of cultural resources adjacent to the APE. (Potentially Significant, Class II)

Ground-disturbing activities are planned at or adjacent to 32 cultural resource sites. Of the 32 resources, 13 were evaluated as not eligible for listing in the NRHP. Therefore, no further work is recommended for these resources. Seventeen of the sites were previously affected within the Project APE to the degree that none of the attributes that make the sites eligible for the NRHP would be affected by construction activities. As portions of these sites outside the APE are still intact, however, monitoring of construction activities at these sites is recommended to protect those portions from inadvertent damage. Four sites remain unevaluated (CA-SBR-6404H, CA-SBR-6530H, P-33-011304, and P-36-009853), and two sites (CA-SBR-317H and P-36-006693) were evaluated as eligible for listing in the NRHP. If avoidance is not possible at these sites, then they must either be bored or archaeological testing and/or historical documentation are recommended.

For 17 sites where monitoring was recommended from field validation surveys, the portions within the APE were damaged to such a degree that no values would make the sites eligible for listing on the NRHP, and these portions would not be affected by construction activities. Construction activities could inadvertently damage the intact cultural resources that are present on portions of these sites that are outside the Project APE.

Mitigation for Impact CU-3:

MM CU-3a*: Native American Consultation.* *Section 4.10.1 discussed several outstanding issues associated with the Native American consultation. Appropriate consultation procedures as outlined in 36 CFR Part 800 would be completed prior to construction.*

MM CU-3b: ***Validation Survey.*** *The following recommendations are specific to the survey results discussed under Validation Survey in the Section 4.10.1:*

- *Although portions of the 17 sites are damaged within the APE, monitoring is recommended to ensure that other portions of the site that are adjacent to the APE are not inadvertently damaged.*

- *If the three unevaluated sites (CA-SBR-6404H, CA-SBR-6530H, and P-33-011304) are determined eligible for listing on the NRHP and they cannot be avoided, BLM- and SHPO-approved data recovery and/or historic documentation is recommended. Site CA-SBR-317H is evaluated as eligible for listing on the NRHP; if avoidance is not possible, archaeological testing and/or historical documentation is recommended.*

MM CU-3c: ***Avoidance.*** *Mitigation of impacts created by construction and maintenance of the proposed Project would in most cases be accomplished by avoiding NRHP-eligible or listed cultural resources. The applicant would revise the alignment to the extent feasible to avoid all archaeological sites by at least 50 feet without exacerbating other environmental impacts. Archaeological sites within 100 feet of the alignment would be barrier fenced or otherwise protected to prevent accidental disturbance during construction. In the event that NRHP-eligible or potentially eligible cultural resource sites cannot be avoided by construction activities, adverse effects would be mitigated by BLM- and SHPO-approved data recovery efforts. Components of data recovery may include surface collection, partial or complete excavation, artifact and feature analysis, mapping, architectural documentation, archival research, or a combination of any of the above. In specific cases, construction monitoring may be the appropriate mitigation.*

MM CU-3d: ***Monitoring Program.*** *The Applicant would implement a comprehensive monitoring program to ensure protection of archaeological sites within and adjacent to the APE. The Applicant would monitor construction activities within 200 feet of the 17 sites with intact cultural resources adjacent to the APE. The archaeological monitoring program would include the following tasks:*

- *pre-construction assessment and construction training;*

- *construction monitoring;*
- *site recording and evaluation;*
- *mitigation planning;*
- *curation;*
- *report of findings; and*
- *review and approve any erosion control and revegetation procedures in the vicinity of a known significant site prior to implementation of these procedures.*

Rationale for Mitigation. Upon implementation of these mitigation measures, the impacts to the recorded cultural resources would be lessened. A program of data recovery, monitoring and/or avoidance would prevent a significant loss of data from the sites and allow EPNG to responsibly manage the sites.

Table 4.10-3 presents a summary of impacts on cultural resources and recommended mitigation measures.

Table 4.10-3. Summary of Impacts and Mitigation Measures for Cultural Resources

Impact	Mitigation Measure
CU-1: Unanticipated Discovery of Cultural Resources or Human Remains	**CU-1a.** Stop Work **CU-1b.** Unanticipated Discovery Plan
CU-2: Potential for Indirect Impacts on Cultural Resources during Construction	**CU-2.** Training
CU-3: Impacts on Recorded Archaeological Sites Adjacent to the Project APE	**CU-3a.** Native American Consultation **CU-3b.** Validation Survey **CU-3c.** Avoidance **CU-3d.** Monitoring Program
CU-4: Impacts on Known Cultural Resources during Maintenance Activities	**CU-4.** Review of Survey Reports

Impact CU-4: Impacts on Known Cultural Resources during Maintenance Activities

Maintenance activities conducted along the pipeline ROW have the potential to adversely affect known cultural resources. *(Potentially Significant/Class II)*

Mitigation for Impact CU-4:

MM *CU-4* ***Review of Survey Reports.*** *Prior to maintenance activities, the Applicant would review survey reports to confirm that maintenance activities would not affect NRHP-eligible sites. If required maintenance cannot avoid a site, the Applicant would initiate consultation with the BLM archaeologist and SHPO, and follow any recommended mitigation measures.*

Rational for Mitigation. A review of known cultural resources within maintenance areas would allow EPNG to properly manage sensitive resources through consultation with cultural resources experts.

4.10.5 Cumulative Impacts

The proposed Project would be located in an already existing permanent ROW. Construction activities would primarily occur on areas previously used as a construction ROW for the All American Pipeline and the existing 6-inch pipeline in the vicinity of Cadiz. In addition to the proposed Project, the only potential sources of disturbance to cultural resources in the Project area include accidental disturbance by recreational users; vandalism; and maintenance of existing roads, transmission lines, and pipelines in the vicinity of the Project. No new projects are proposed in the construction ROW of the proposed Project. Therefore, all disturbances in the construction ROW outside the proposed Project would result from existing projects or conditions.

The proposed Project is not expected to significantly affect cultural resources if the mitigation measures outlined in Section 4.10.4, Impact Analysis and Mitigation, are implemented. Any projects proposed near the construction ROW of Line 1903 would be required to implement mitigation measures similar to those outlined in Section 4.10.4, Impact Analysis and Mitigation. Therefore, cumulative impacts on cultural resources would be less than significant.

4.10.6 Alternatives

No Project Alternative

The No Project Alternative would not convert the former All American crude oil pipeline system to a natural gas transmission system. This alternative would not affect cultural resources.

Ehrenberg to Daggett Alternative

The Ehrenberg to Daggett Alternative would not convert the portion of Line 1903 from MP 0 to MP 132.1. This alternative would avoid impacts on 3 of the 17 known sites of cultural resources in the construction area. Consequently, the Ehrenberg to Daggett Alternative would result in fewer impacts on cultural resources than those described for the Project.

Ehrenberg to Cadiz Alternative

The Ehrenberg to Cadiz Alternative would not convert the portion of Line 1903 from MP 0 to MP 215.75. This alternative would avoid impacts on 11 of the 17 known sites of cultural resources in the construction area. Consequently, the Ehrenberg to Cadiz Alternative would result in fewer impacts on cultural resources than those described for the Project.

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